

REMARKS

Applicant hereby traverses the outstanding rejections and requests reconsideration and withdrawal in view of the remarks contained herein. Claims 1-10 and 34-40 have been withdrawn from consideration. Claims 11, 13-16, 19, 23, 25-28, and 30-31 have been amended. Claims 17, 18 and 29 have been canceled. Claims 11-16, 19-28 and 30-33 are currently under consideration in this application.

Objection to the Disclosure

The serial numbers of the applications referenced in the specification have substituted for the attorney docket numbers, as requested by the Examiner. In view of the amendments, Applicant respectfully requests that the Examiner withdraw the objection to the disclosure.

Rejection under 35 U.S.C. § 102 (Kordis)

Claims 11-14, 16-18 and 21-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,476,495 to Kordis et al., (hereinafter Kordis).

It is well settled that to anticipate a claim, the reference must teach every element of the claim, see M.P.E.P. § 2131. Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim,” see M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicant respectfully asserts that the rejection does not satisfy these requirements.

Claim 11, as amended, requires an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around the lumen in a first direction, the at least one conductor completely encapsulated by the insulating material. At least this limitation is not shown in Kordis. The Examiner refers to mapping probe 18 referenced in Figure 1, and more specifically catheter body 96 of mapping probe 18 described with respect to Figures 31-33 of Kordis as anticipating claim 11. Applicant respectfully disagrees with the Examiner’s interpretation of Kordis.

Kordis clearly shows in Figure 31 the structure of catheter body 96 of mapping probe 18, which is described in detail at column 13, lines 31-55. Catheter body 96 includes a center tube 106 made from a plastic material such as Pebax tubing. id at lines 32-33. Two layers of copper signal wire 110 and 112 are wrapped around center tube 106 and each signal wire carries an outer insulating sheath. id at lines 36-39. The layers 110 and 112 are separated by an insulation layer 114 of Teflon plastic or the like. id at lines 39-44. Additionally, catheter body 96 includes a metalized plastic layer 116 that surrounds the second layer of signal wires 112. id at lines 51-53.

The layers of wires are clearly shown in Figure 31 as being formed in the gaps between materials 106, 114 and 116. None of the wire layers 110 and 112 are either individually, or collectively, completely encapsulated in an insulating material where the insulating material forms a unitary layer around the lumen. As Kordis does not show an insulating material forming a unitary layer around the lumen and at least one conductor completely encapsulated in the insulating material as described in claim 11, Applicant respectfully asserts that the identical invention is not shown in complete detail as is contained in the claim, and requests the rejection of claim 11 under §102(b) be withdrawn.

Claims 17 and 18 have been canceled. Claims 12-14, 16 and 21-22 each depend from claim 11 and thus inherit all of claim 11's limitations. Applicant, therefore, respectfully asserts that claims 12-14, 16 and 21-22 are allowable over the 35 U.S.C. §102(b) rejection, for at least the reasons set forth above. Further, at least claims 15 and 16 contain additional limitations not described by Kordis. Specifically, claim 15 requires the a second insulating material forming a second unitary layer around the lumen wherein the at least a second conductor is completely encapsulated by the second insulating material. Claim 16 requires the unitary layer and the second unitary layer form a single unitary body. As described above Kordis does not disclose at least these limitations.

Rejection under 35 U.S.C. § 102 (Diaz)

Claims 11-14, 16-18, 21-26, 28-30 and 32-33 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,824,026 to Diaz, (hereinafter Diaz).

It is well settled that to anticipate a claim, the reference must teach every element of the claim, see M.P.E.P. § 2131. Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim,” see M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicant respectfully asserts that the rejection does not satisfy these requirements.

Claim 11 requires an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around the lumen in a first direction, the at least one conductor completely encapsulated by the insulating material. At least this limitation is not shown in Diaz. Diaz describes a catheter 10a which has embodiments shown in cross-section in Figures 3 and 5. the Catheter is comprised of a central flexible core 28. Column 4, lines 37-44. The core 28 has a layer of stranded fibers on its outer surface which are covered by insulating layer 17. Column 5, lines 6-24. Figure 5 shows a second and third layers of stranded fibers with an insulative layer 44 immediately covering the second layer of stranded fibers with the outer insulative layer 17 covering the third layer. Column 6, lines 14-34. Figures 3 and 5 show fibers 34 resting in the spaces between core 28 and insulating layers 44 and 17. The materials forming core 28 and insulating layers 44 an 17 are clearly distinct layers of materials as shown by the direction of the hatching on each layer. Nothing in Diaz suggests that any of the layers are formed by an insulating material forming a unitary layer where the at least one conductor is completely encapsulated in the insulating material as required in claim 11. Applicant, therefore, respectfully asserts that claim 11 is allowable, for at least the reasons set forth, over the 35 U.S.C. §102(b) rejection.

Claims 12-14, 16 and 21-22 each depend from claim 11 and thus inherit all of claim 11’s limitations. Applicant, therefore, respectfully asserts that claims 12-14, 16 and 21-22 are allowable, for at least the reasons set forth, over the 35 U.S.C. §102(b) rejection. Further, at least claims 15 and 16 contain additional limitations not described by Diaz. Specifically, claim 15 requires a second insulating material forming a second unitary layer around the lumen, wherein the at least the second conductor is completely encapsulated in the second insulating material. Claim 16 requires the unitary layer and the second unitary layer form a single unitary body. As described above Diaz does not disclose at least these limitations.

Claim 23 requires an extrusion material forming a unitary layer around a lumen, and at least one conductor spirally wound around the lumen in a first direction, wherein the at least one conductor is completely disposed within the extrusion material. At least this limitation is not shown in Diaz. For the reasons set forth above, the catheter shown in Figures 3 and 5 of Diaz does not show an extrusion material forming a unitary layer around a lumen, and at least one conductor spirally wound around the lumen in a first direction, wherein the at least one conductor is completely disposed within the extrusion material. Applicant, therefore, respectfully requests the rejection of claim 15 under §102(b) be withdrawn.

Claim 29 has been canceled. Claims 24-26, 28, 30 and 32-33 each depend from claim 23 and thus inherit all of claim 23's limitations. Applicant, therefore, respectfully asserts that claims 24-26, 28, 30 and 32-33 are allowable over the 35 U.S.C. §102(b) rejection, for at least the reasons set forth above. Further, at least claims 27 and 30 contain additional limitations not described by Diaz. Specifically, claim 27 requires a second extrusion material forms a second unitary layer around the lumen, and wherein the at least a second conductor is completely encapsulated in the second extrusion material, and claim 30 requires the unitary layer and the second unitary layer are part of the same unitary body. As described above Diaz does not disclose at least these limitations.

Rejection under 35 U.S.C. § 102 (Brownlee)

Claims 11-20, 22-31 and 33 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,772,693 to Brownlee, (hereinafter Brownlee).

It is well settled that to anticipate a claim, the reference must teach every element of the claim, see M.P.E.P. § 2131. Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim,” see M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicant respectfully asserts that the rejection does not satisfy these requirements.

Claim 11 requires a lumen, an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around the lumen in a first direction, the at

least one conductor completely encapsulated by the insulating material. Brownlee describes a catheter body 70 shown in Figure 20 and described a column 12, lines 13-25. The catheter body is formed by four conductors 56, each conductor 56 separated by a layer of insulation 54. The preferred method of constructing catheter body 70 is to vertically extrude insulation directly onto each of the individual coils and then sliding the smaller coils into the longer coils prior to heat setting the catheter. Column 12, lines 19-25. Brownlee does not show a lumen nor does Brownlee show an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around a lumen in a first direction, the at least one conductor completely encapsulated in an insulating material. While the heat setting of Brownlee shrinks the extrusion material into close contact with the conductors and holds the catheter body of Brownlee in its desired shape, nothing in Brownlee suggests, and none of the Figures of Brownlee show, a unitary layer as required by claim 11, either through heat setting or by other means. As Brownlee does not disclose at least the elements set forth above, Applicant respectfully asserts that claim 11 is allowable, for at least the reasons set forth, over the 35 U.S.C. §102(b) rejection.

Claims 12,-16, 19 and 22 each depend from claim 11 and thus inherit all of claim 11's limitations. Applicant, therefore, respectfully asserts that claims 12, 14-19 and 22 are allowable, for at least the reasons set forth, over the 35 U.S.C. §102(b) rejection. Further, at least claims 15 and 16 contain additional limitations not described by Brownlee. Specifically, claim 15 requires a second insulating material forming a second unitary layer around the lumen, wherein the at least the second conductor is completely encapsulated in the second insulating material. Claim 16 requires the unitary layer and the second unitary layer form a single unitary body. As described above Brownlee does not disclose at least these limitations.

Claim 23 requires a lumen and an extrusion material forming a unitary layer around a lumen, and at least one conductor spirally wound around the lumen in a first direction, wherein the at least one conductor is completely disposed within the extrusion material. At least these limitations are not shown in Brownlee. For the reasons set forth above, the catheter shown in Figure 20 of Brownlee does not show a lumen, nor an extrusion material forming a unitary layer around a lumen, and at least one conductor..., wherein the at least one

conductor is completely disposed within the extrusion material. Applicant, therefore, respectfully requests the rejection of claim 23 under §102(b) be withdrawn.

Claims 24, 26, 28-30 and 32-33 each depend from claim 23 and thus inherit all of claim 23's limitations. Applicant, therefore, respectfully asserts that claims 24, 26, 28-30 and 32-33 are allowable, for at least the reasons set forth, over the 35 U.S.C. §102(b) rejection. Further, at least claims 27 and 30 contain additional limitations not described by Brownlee. Specifically, claim 27 requires a second extrusion material forms a second unitary layer around the lumen, and wherein the at least a second conductor is completely encapsulated in the second extrusion material, and claim 30 requires the unitary layer and the second unitary layer are part of the same unitary body. As described above Brownlee does not disclose at least these limitations.

Rejection under 35 U.S.C. § 103

Claims 11-20, 22-31 and 33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brownlee alone or in view of Kordis, Diaz or U.S. Patent Number 5,840,032 to Crowley (hereinafter Crowley).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. § 2143. Without conceding the first or second criteria, Applicant asserts that the rejection does not satisfy the third criteria.

Claim 11 requires a lumen and an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around the lumen in a first direction, the at least one conductor completely encapsulated by the insulating material. At least these limitations are not shown in Brownlee. As previously stated, Brownlee describes a catheter body 70 shown in Figure 20 and described a column 12, lines 13-25. The catheter body is formed by four conductors 56, each conductor 56 separated by a layer of insulation 54. The preferred method of constructing catheter body 70 is to vertically extrude insulation directly

onto each of the individual coils and then sliding the smaller coils into the longer coils prior to heat setting the catheter. Column 12, lines 19-25. Brownlee does not show a lumen nor does Brownlee show an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around the lumen in a first direction, the at least one conductor completely encapsulated by the insulating material. While the heat setting holds the catheter body of Brownlee in its desired shape, nothing in Brownlee suggests a unitary layer as required by claim 11, whether by heat setting or other means. As Brownlee does not disclose at least the elements set forth above and none of Kordis, Diaz or Crowley are relied upon as showing these limitations, Applicant respectfully asserts that claim 11 is allowable, for at least the reasons set forth, over the 35 U.S.C. §103 rejection.

Claims 12, 14-19 and 22 each depend from claim 11 and thus inherit all of claim 11's limitations. Applicant, therefore, respectfully asserts that claims 12, 14-19 and 22 are allowable, for at least the reasons set forth, over the 35 U.S.C. §103 rejection. Further, at least claims 15 and 16 contain additional limitations not described by Brownlee and none of Kordis, Diaz or Crowley are relied upon as showing the limitations. Specifically, claim 15 requires a second insulating material forming a second unitary layer around the lumen, wherein the at least the second conductor is completely encapsulated in the second insulating material. Claim 16 requires the unitary layer and the second unitary layer form a single unitary body. As described above Brownlee does not disclose at least these limitations and none of Kordis, Diaz or Crowley are relied upon to shown these features.

Claim 23 requires a lumen and an extrusion material forming a unitary layer around a lumen, and at least one conductor spirally wound around the lumen in a first direction, wherein the at least one conductor is completely disposed within the extrusion material. At least these limitations are not shown in Brownlee. For the reasons set forth above, the catheter shown in Figure 20 of Brownlee does not show a lumen, nor an extrusion material forming a unitary layer around a lumen, and at least one conductor spirally wound around the lumen in a first direction, wherein the at least one conductor is completely disposed within the extrusion material, and none of Kordis, Diaz or Crowley are relied upon to show these features. Applicant, therefore, respectfully requests the rejection of claim 23 under §103 be withdrawn.

Claims 24, 26, 28-30 and 32-33 each depend from claim 23 and thus inherit all of claim 23's limitations. Applicant, therefore, respectfully asserts that claims 24, 26, 28-30 and 32-33 are allowable, for at least the reasons set forth, over the 35 U.S.C. §103 rejection. Further, at least claims 27 and 30 contain additional limitations not described by Brownlee and none of Kordis, Diaz or Crowley are relied upon to show these features. Specifically, claim 27 requires a second extrusion material forms a second unitary layer around the lumen, and wherein the at least a second conductor is completely encapsulated in the second extrusion material, and claim 30 requires the unitary layer and the second unitary layer are part of the same unitary body. As described above Brownlee does not disclose at least these limitations and none of Kordis, Diaz or Crowley are relied upon as showing these features.

Claims 21 and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brownlee.

Claim 21 requires, through its dependency from claim 11, a lumen and an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around the lumen in a first direction, the at least one conductor completely encapsulated by the insulating material. For the reasons set forth with respect to claim 11, Brownlee does not describe these limitations, and none of Kordis, Diaz or Crowley are relied upon as showing these limitations. Applicant, therefore, respectfully asserts that claim 21 is allowable, for at least the reasons set forth, over the 35 U.S.C. §103 rejection.

Claim 32 requires, through its dependency from claim 23, a lumen and an extrusion material forming a unitary layer around a lumen, and at least one conductor spirally wound around the lumen in a first direction, wherein the at least one conductor is completely disposed within the extrusion material. For the reasons set forth with respect to claim 23, Brownlee does not describe these limitations, and none of Kordis, Diaz or Crowley are relied upon as showing these limitations. Applicant, therefore, respectfully asserts that claim 32 is allowable, for at least the reasons set forth, over the 35 U.S.C. §103 rejection.

Claims 15, 19-20, 27 and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kordis or Diaz alone or in view of Brownlee.

Claims 15 and 19-20 each require, through their dependencies from claim 11, an insulating material forming a unitary layer around the lumen and at least one conductor spirally wound around the lumen in a first direction, the at least one conductor completely encapsulated by the insulating material. For the reasons set forth with respect to claim 11, neither Kordis nor Diaz describe this limitation, and Brownlee is not relied upon as showing this limitation. Applicant, therefore, respectfully asserts that claims 15 and 19-20 are allowable, for at least the reasons set forth, over the 35 U.S.C. §103 rejection.

Claims 27 and 31 each require, through their dependencies from claim 23 an extrusion material forming a unitary layer around a lumen, and at least one conductor spirally wound around the lumen in a first direction, wherein the at least one conductor is completely disposed within the extrusion material. For the reasons set forth with respect to claim 23, neither Kordis nor Diaz describe this limitation, and Brownlee is not relied upon as showing this limitation. Applicant, therefore, respectfully asserts that claims 27 and 31 are allowable, for at least the reasons set forth, over the 35 U.S.C. §103 rejection.

Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 06-2380, under Order No. 03-009 from which the undersigned is authorized to draw.

Dated: April 6, 2005

Respectfully submitted,

By 

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